

Path of Oxygen- Respiratory System

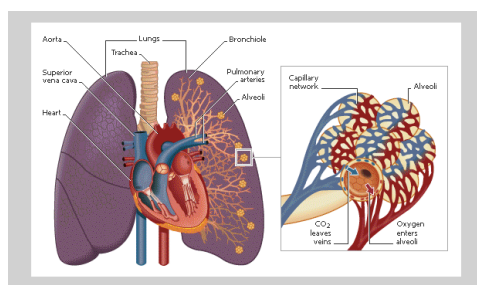
- 1) **Free oxygen** from the air is inhaled
- 2) Oxygen enters the body from the mouth and is sucked in by a *vacuum effect* caused by the chest cavity expanding (causes the lungs to expand drawing the air in) {diaphragmatic breathing}
- 3) Air passes the epiglottis down the **Trachea**, to the **Bronchus** to the small **Bronchioles**
- 4) Along the way, the lining of the walls are covered by **cilia** (tiny hairs to filter the pollutants in the air)
- 5) Air continues to the tiny **Alveolus** bulbs surrounded by capillaries

Nov 9-6:40 PM

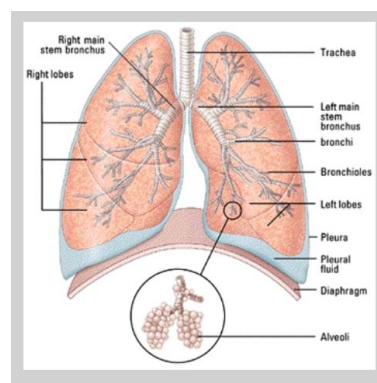
- 6) The membrane lining of the alveolus is like a loading dock. Oxygen cannot move through the fluid in the blood stream and must be carried. It is at the lining here where oxygen is loaded onto **hemoglobin** molecules of the red blood cells.
- 7) As oxygen is loaded on, carbon dioxide is traded off and released to the lung tissues and eventually exhaled.
- 8) The oxygen is carried through the bloodstream to the body cells where it *diffuses* inside the cell.
- 9) Once inside the cell the oxygen becomes the "key" to unlock the cells' energy (ATP). This is *cell metabolism*.
- 10) Afterwards the metabolic waste product - carbon dioxide from the cell is loaded on the empty red blood cells in the bloodstream and sent back to the lungs where it is exhaled.

Nov 9-6:50 PM

- 11) Here the whole process repeats itself.



Nov 9-7:01 PM



Nov 9-7:23 PM



Nov 9-7:03 PM

Test Outline

Tuesday November 8th

Cardiovascular System

- path of blood through the system
- measures of heart health at rest vs exercise
- effects of cardiovascular training

Respiratory System

- Path of O₂ through anatomy
- . Measures of VO₂

Nov 11-1:15 PM